

REMARKS

Reconsideration of the present application is requested in view of the foregoing amendments and for the following reasons.

I. Claim Amendments

Claims 1-38 are pending. Claims 2 and 20 are canceled without disclaimer or prejudice to further prosecution on the merits.

Independent claims 1 and 19 are amended to recite “A fire resistant polymer composition based on silicone polymer and containing inorganic filler.” Support for this limitation is provided in the original claims and Specification. As indicated throughout the Specification, the invention relates to compositions that comprise silicon polymer. Inorganic fillers are described in the Specification at page 8, lines 12-16 and 22-25; page 10, lines 26-31, and page 21, lines 13-16. Independent claims 1 and 19 further are amended to incorporate the subject matter of claims 2 and 20, respectively, and to recite “a glass additive in a form selected from a group consisting of glass frits, glass fibre, and mixtures thereof.”

New claims 41-48 are requested to be added.

New claims 41 and 42 depend from claims 1 and 19 respectively and recite “wherein the composition is extrudable.” Support for this limitation is provided in the original claims and Specification, for example, in original claim 35 and in the Specification at page 2, lines 12-14; page 9, lines 19-26; page 11, lines 6-8 and 20-22; page 12 lines 8-9 and 21-22; page 13 lines 4-12; and Examples 8 and 11, discussing the fact that the composition is suitable for extrusion.

New independent claim 43 recites:

A fire resistant polymer composition based on silicone polymer and containing inorganic filler for forming a self supporting ceramic under fire conditions, the composition comprising:

the silicone polymer in an amount from 56.5% to 76.75% by weight based on the total weight of the composition;

mica in an amount of from 5% to 30% by weight based on the total weight of the composition; and

a glass additive in a form selected from a group consisting of glass frits, glass fibre, and mixtures thereof in an amount of from 0.3% to 8% by weight based on the total weight of the composition.

As such, new claim 43 relates to claims 1 and 19 and further recites “the silicone polymer in an amount from 56.5% to 76.75% by weight based on the total weight of the composition.” Support for new claim 43 is provided in the original claims and Specification. The Examples of the Specification disclose compositions comprising silicone polymer, mica, and a glass additive. Tables 5 and 6 disclose such compositions comprising silicone polymer at a concentration as high as 76.75% and Table 10 discloses such compositions comprising silicone polymer at a concentration as low as 56.5%.

New claim 44 recites “wherein a 1.7 mm thick sample of the composition has a penetration load greater than 40 N after having been heated to 600°C at a rate of 10°C per minute and then being held at 600°C for 30 minutes in air.” Support for this limitation is provided in the original claims and Specification, for example, in the Specification at Example 2 and Table 2.

New claim 45 recites “wherein a 3 mm thick sample of the composition has a flexural strength greater than 3.2 MPa after having been heated to 1000°C and then being held at 1000°C for 30 minutes in air.” Support for this limitation is provided in the original claims and Specification, for example, in the Specification at Example 3 and Table 3.

New claim 46 recites “wherein the glass additive has a mean particle size less than 12 μm .” Support for this limitation is provided in the original claims and Specification, for example, in the specification at Example 4 and Table 4 (discussing milled glass additive having a mean particle size less than 12 μm .)

New claim 47 recites “wherein the composition has a volume resistivity of greater than 6.7×10^5 ohm-cm.” Support for this limitation is provided in the original claims and Specification, for example, in the Specification at Example 5 and Table 7.

New claim 48 recites “wherein the composition further comprises a fire retardant and a silane coupling agent, and a 3 mm thick sample of the composition has a flexural strength greater than 1.47 MPa and a flexural modulus greater than 7.28 MPa after firing at 1050°C for 30 minutes.” Support for this limitation is provided in the original claims and Specification, for example, in original claim 9 and in the Specification at Examples 9-11 and Tables 8-10.

Because the claim amendments do not introduce new matter and otherwise are proper, entry thereof is requested. After the amendment is entered, claims 1, 3-19, and 21-48 are pending. Claims 34-38 are withdrawn from consideration in view of the restriction requirement.

II. Claim Rejections – 35 U.S.C. 102(b) and 103(a) (Leroux *et al.*)

Claims 1, 3-5, 7, 8, 11, 16, 18, 19, 21-23, 25, 26, and 28-32 were rejected under 35 U.S.C. 102(b) as being anticipated by Leroux *et al.* (U.S. Patent No. 5,262,454)(hereinafter “Leroux *et al.*”) as evidenced by Kerenya (U.S. Patent No. 6,935,137) and Coster *et al.* (U.S. Patent No. 6,979,662). Claims 9, 12-15, 17, 27, and 33 were rejected as being unpatentable over Leroux *et al.* under 35 U.S.C. 103(a) further in view of one or more secondary references including Hedric (Mica, 1997, first published on the web on 8/24/2000), Sawada (JP 09-55125), Matsumoto *et al.* (U.S. Patent No. 6,174,943), and Beauchamp (U.S. Patent No. 5,227,586). The Applicants respectfully traverse the rejections in view of the foregoing claim amendments and for the following reasons.

Claims 2 and 20, now canceled, were not rejected over Leroux *et al.*, either alone as a primary reference or further in view of any secondary references. Independent claims 1 and 19 and been amended to incorporate the limitations of claims 2 and 20, respectively, related to “a glass additive in a form selected from a group consisting of glass frits, glass fibre, and mixtures thereof.” New claim 43 recites a limitation that is substantially similar to the limitations present in claims 2

and 20. Therefore, the claim amendments obviate the rejections over Leroux *et al.* under 35 U.S.C. 102 and 103. Reconsideration and withdrawal of the rejections are requested.

III. **Claim Rejections – 35 U.S.C. 103(a) (Landin)**

Claims 1-10, 12-15, and 19-33 were rejected under 35 U.S.C. 103(a) as being unpatentable over Landin (U.S. Patent No. 6,153,674)(hereinafter “Landin”) either alone or further in view of one or more secondary references including (<http://www.chance-hunt.com/cepree/products/howitworks.htm>), Hedrick (Mica, 1997, first published on the web on 8/24/2000), Sawada (JP 09-55125), and Beauchamp (U.S. Patent No. 5,227,586). The Applicants respectfully traverse the rejections in view of the foregoing claim amendments and for the following reasons.

In order to render a claim unpatentable under 35 U.S.C. 103, a reference or a combination of references must teach or suggest elements that meet all of the limitations of the claims. Landin, either alone as a primary reference or combined with any of the secondary references does not teach or suggest elements meeting all of the limitations of the claims. The present claims recite “[a] fire resistant polymer composition based on silicone polymer and containing inorganic filler.” Because the claimed compositions are based on silicone polymer, inherently the claimed compositions mainly comprise silicon polymer and are extrudable. (*See also* claims 41 and 42, reciting “wherein the composition is extrudable.”) Landin does not teach or suggest “[a] fire resistant polymer composition based on silicone polymer and containing inorganic filler” as presently claimed.

Landin’s fire barrier material contains 0.5 – 25% by weight structural phase, and 75-99.5% inorganic heat absorbing compounds. As part of the fire barrier structural phase, Landin teaches 0.5-10 weight % binder. (*See* Landin, col. 2, lines 19-30). The binders may be polymeric materials in the form of aqueous emulsions or solution. (*See* Landin, col. 3, lines 30-35), and among the numerous list of lattices in column 4, lines 8-18, Landin includes lattices containing a silicone, although preferred lattices include an acrylate polymer.

In contrast to Landin, who uses a relatively minor amount of polymer as a binder, the presently claimed compositions are based on a silicone polymer and contain an inorganic filler. Because the claimed compositions are based on a silicone polymer, they are extrudable, which is a form that is completely different from the aqueous mixtures of Landin. In the working Examples of the present Specification, the lowest amount of silicone polymer present in the compositions is 56.5%. (*See* Table 10, page 10, composition II. *See also* present claims 39-43).

Landin relates to an inorganic material bound by a latex (*i.e.*, a water-based emulsion) which optionally may include a relatively low amount of a silicon polymer, but preferably an acrylate polymer. Landin does not teach or suggest a silicon polymer composition containing inorganic fillers. Rather, Landin teaches forming articles comprising 75-95.5% inorganics (*i.e.*, where the inorganic is the majority component) and a liquid emulsion containing water and polymer to bind the inorganic materials. The composition of Landin is in the form of a turbulent suspension. (*See* Landin, col. 11, line 62 to col. 12, line 1, stating “A binder, for example, in the form of a latex, is dispersively coagulated over the particles and fibers in the suspension, and the resulting curd, maintained in suspension by turbulent mixing”). Landin’s composition is not a composition based on silicone polymer and containing inorganic filler.

Therefore, Landin does not teach or suggest elements meeting all of the limitations of the claims. This deficiency is not remedied by any of the secondary references. For all these reasons, reconsideration and withdrawal of the rejection is requested.

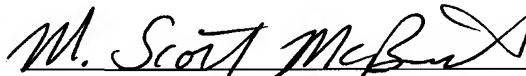
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IV. Conclusion

An effort has been made to place this application in condition for allowance and such action is earnestly requested.

Respectfully submitted,

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A handwritten signature in cursive script, reading "M. Scott McBride", written over a horizontal line.

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